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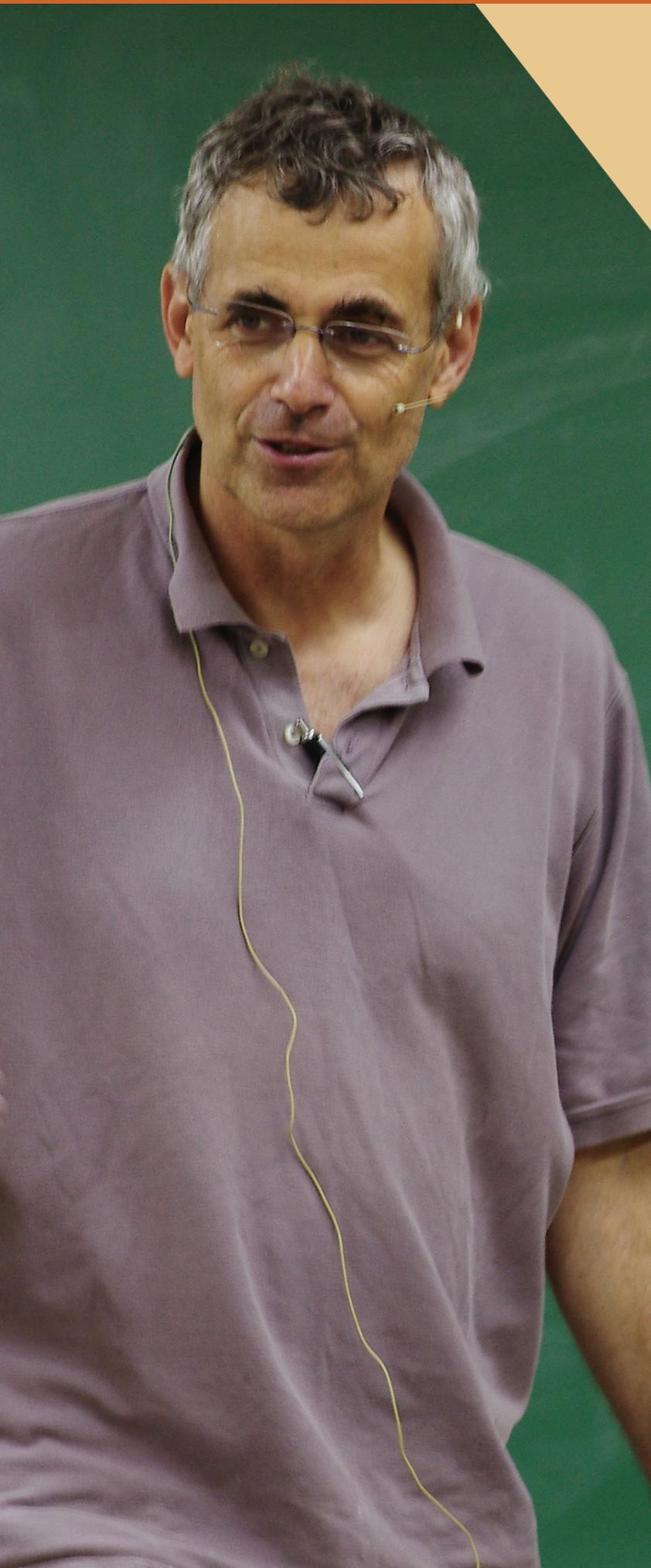
The Surprising Ubiquity of Logarithmically Correlated Fields and Their Extremes

Prof. Ofer Zeitouni (Weizmann Institute & NYU)

Date: Friday, November 4, 2022

Time: 3:15 PM

Location: 3206 Kirwan Hall



Abstract

Logarithmically correlated fields (LCF) are random fields that exhibit a certain type of long range correlation. In the last two decades, they were shown to pop up in a variety of models, such as certain PDE's, Gaussian free fields, (planar) random walks, random matrices, random polynomials, and the Riemann zeta function.

Various questions concerning the extremes of such fields have common answers (some proven, some conjectured) in terms of extremes of Gaussian LCF. I will explain the common mechanism behind this universal phenomenon and its relation to branching random walks. No prior knowledge of any term in this abstract will be assumed.

About the Speaker

Ofer Zeitouni got his PhD in Electrical Engineering from the Technion, Israel in 1986. After a post-doc at Brown University and MIT, he has been on the faculty of the Technion (1989-2006), the University of Minnesota (2002-2012), and, since 2007, the Weizmann Institute. He is also a global distinguished professor of Mathematics at the Courant Institute, NYU. Zeitouni's research interests are in probability theory, with recent focus on extremes of logarithmically correlated fields, random matrices, and motion in random media. He is a fellow of the IEEE, IMS and AMS, and a member of the American Academy of Arts and Sciences and of the US National Academy of Sciences.



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